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SUSTAINABLE COMMUNITY TRANSFORMATION



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Foreword



It is my pleasure to welcome you to our latest issue of Research Update. In every issue of Research Update, we endeavour to highlight efforts by our researchers, with the hope that the sharing of knowledge through this publication will impart valuable information, generate interests and to potentially create research opportunities and collaborations.

In this issue, themed “Sustainable Community Transformation” it is our hope it will strengthen our understanding and enhance our appreciation of the efforts by our researchers to develop the socio-economic well-being of the society and ultimately propel UNIMAS to greater heights within the research and innovation ecosystem.

A community is regarded as a system comprising of interdependent linkages of living things. The land we live in is considered as living things, such as the soils, plants and animals. The social and economic dilemmas of our communities and societies today are all direct consequences of our treatment towards soil, plants and animals. It is imperative for us to build and maintain healthy, regenerative societies for the future in order to sustain all living things for the consumption of our future generations. As such, UNIMAS aspires to ensure the sustainability of the community that would safeguard future generations.

I would like to express my heartfelt appreciation to the researchers who provided articles to this edition of Research Update. It is my wish for you to maintain your research initiatives and I hope that the research projects described in this issue would encourage and stimulate interdisciplinary discussions and establish collaborations that would sustain and transform our community.

Thank you.

A handwritten signature in black ink, consisting of a stylized 'P' with a horizontal line through it.

Professor Dr Kopli Bujang
Deputy Vice Chancellor (Research & Innovation)
Universiti Malaysia Sarawak

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A FRAMEWORK FOR ANALYSING MULTIPLE LITERARY IDENTITIES IN CONTEMPORARY MALAYSIAN LITERATURE

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Contemporary Malaysian literature has often been regarded as a site of identity construction where local writers construct the identities of their characters and their own sense of identities in the process. Although there have been studies that examined the creation of these identities, the focus was more on evaluating specific identities (e.g. those based on ethnicity, religion, gender) rather than the multiplicity of characters' roles and identities. The latter is important, considering that people, as Burke and Stets (2009) contend, "possess multiple identities because they occupy multiple roles, are members of multiple groups, and claim multiple personal characteristics" (p. 3). The study of these identities most certainly involves the use of identity theory that "seeks to explain the specific meanings that individuals have for the multiple identities they claim; how these identities relate to one another for any one person; how their identities influence their behaviour, thoughts, feelings or emotions; and how their identities tie them in to the society at large" (Burke & Stets, 2009, p. 3). This point itself requires further investigation, given that contemporary Malaysian literature is a goldmine of multiple identities and there is a need for frameworks that can evaluate the various facets of such identities. Keeping this in mind, the present study aims to develop a framework for analysing multiple identities in contemporary Malaysian literature. This was achieved by exploring readers' and writers' views on characters' identities in selected literary texts (i.e. how contemporary Malaysian writers construct the identities of their characters and how readers respond to these identities and their own identities in the process) and developing a framework for analysing these identities. Semi-structured interviews were conducted to elicit the views of five local writers and a survey was administered to gather responses from 100 readers (undergraduate students) who were required to read the writers' selected works. A total of 20 scholars/experts in the field were interviewed to obtain their feedback on the framework that this study attempts to develop based on the readers' and writers' views. The results show that (1) local writers employ various approaches to create their characters' identities, which include the use of narrative conventions such as characters/characterisation, (2) readers are able to identify, respond to and relate with the characters' multiple roles and identities (e.g. profession-, place-, class-based types) as portrayed in the writers' works, and (3) agree that these identities increase their understanding of themselves, particularly their own identities. The results also show that the analytical framework, which is developed based on the writers' and readers' inputs as well as the tenets of selected literary and sociocultural theories, can be used to teach local literary texts that focus on diverse characters and their multiple identities. The present study hopes to make a first contribution to filling the lacuna in the scholarship of Malaysian literature through the development of the abovementioned framework. However, while there are no commonly accepted frameworks for the study of multiple literary identities, it may be helpful to consider frameworks suggested by other scholars of various disciplines not only to better understand the writers' construction of their characters' identities and how readers view them, but also help to advance the development of a framework appropriate for this purpose.

This research was supported by the Ministry of Education Malaysia through research grant number RACE/f(1)/1104/2014(12)

AiSayz: AUGMENTED VOCABULARY LEARNING APP WITH 3D SOUNDS FOR BLIND LEARNERS

Researchers: Chuah Kee Man¹, Radina Mohamad Deli¹ and Chen Chwen Jen²

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²Faculty of Cognitive Sciences and Human Development

AiSays (AI stands for artificial intelligence, while the whole word rhymes with 'eye' says) combines the use of augmented learning environments with 3D acoustic technology (3D audio) in helping visually-impaired or blind learners to learn vocabulary in a specific target language. It is the team's second output (after LexiVibe) from the UNIMAS SoTL grant that funds this research. This application enables blind learners to navigate their learning environments via an augmented interface using their mobile phone and learn each word as it is pronounced out loud using 3D audio. Examples of the words usage are also produced clearly, in order to enhance their understanding. This sharpens their cognitive ability in creating mental representations of the words that they picked up when interacting with the augmented interface rather than learning through the conventional dictionary-like approach. AiSayz has the three novel features. Firstly, the application is equipped with a real-time object detection method that allowed augmented learning to take place. Translations to other languages are also included. Secondly, based on its principle of "vision through voice", AiSayz allows the blind learners to "see" through voice. They are able to visualise objects in their mind with the assistance of 3D sounds. Thirdly, AiSayz's augmented feature pushes authentic learning for the blind to a whole-new level. Real objects around them are embedded in a learning environment, giving an effective mental representation of words. AiSayz is ready to be commercialised by the end of 2017 through the social enterprise model and the method used in the application has been filed for patent protection. It will be marketed as a paid app that also contains in-app purchases of more augmented "learning worlds" and word lists. The income generated is then reinvested to improve the well-being of the blind learners. The market target is worldwide, with the aim of supporting more languages.

Grant No: C02/SoTL/1472/2016



CAPACITY BUILDING OF BIDAYUH ENTREPRENEURS USING SECI MODEL AS LENSES: A STUDY OF KNOWLEDGE TRANSFER AMONG BIDAYUH ENTREPRENEURS AND INDONESIAN CROSS-BORDER ENTREPRENEURS IN SERIKIN WEEKEND MARKET

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The existence of Serikin weekend market (located at the border between Sarawak, Malaysia and Kalimantan, Indonesia) has been increasingly recognised among local (Kuching) people, those from Peninsular Malaysia and even foreign tourists due to the uniqueness of goods sold and the cheaper prices compared to other markets. Every weekend, from 7 am to 2 pm, Serikin is transformed into a market place where various proactive entrepreneurs from Indonesia travel regularly across the border to trade their merchandise. While the existence of this market also provides the local Bidayuh entrepreneurs with the opportunity to run their business, they lack adequate knowledge, skill, and capital to play a bigger and more significant role compared to the Indonesian cross-border entrepreneurs. The number of Bidayuh entrepreneurs at the market is also small (100 out of 400), have lesser quantity and variation of merchandise to sell, and are of less competitive. From the interviews conducted, these Bidayuh entrepreneurs admitted that there are significant differences with Indonesian Cross-Border entrepreneurs in term of the characteristics that enable entrepreneurs to succeed. They perceived the Indonesian Cross-Border entrepreneurs as being more agile, risk-takers, hard-working, persistent, resilient, knowledgeable, skilful, sociable, independent, and better at customer service. This study found that although the business-activities in Serikin market have been going on for decades, the transfer of knowledge among fellow entrepreneurs (between Indonesian cross-border entrepreneurs and Bidayuh-entrepreneurs) is surprisingly still very minimal. To analyse and find solutions to the circumstances faced by Bidayuh entrepreneurs, the SECI (Socialisation, Externalisation, Combination and Internalisation) Model introduced by Nonaka and Takeuchi (1995) was used in this study. The model explains that knowledge should be continuously shared/transferred and converted by the users through interaction, learning, practise, and collaboration in order to create new knowledge. Entrepreneurship competencies among Bidayuh entrepreneurs will improve along with the rate of the knowledge conversion. This study proposed a development program by using SECI Model as a lens to improve their competencies as entrepreneurs. At the end of the programme, the Bidayuh entrepreneurs would have better knowledge, skills, and abilities to interact and learn from their interaction with Indonesian cross-border entrepreneurs so they can play a bigger and more significant role in the business arena in the Serikin Weekend Market, and eventually be a part of the global world.

This research was supported by Institute of Borneo Studies, under Kursi Dayak Grant, Universiti Malaysia Sarawak, UNIMAS through research grant No. F04/DRC/1460/2016.

CHILDREN'S TOILET TRAINING TOOL: THE SACRED TOILET

*Researchers: Jong Sze Joon, Zulhisyam Bin Mustapah and Saud Amerrouf Sian
Faculty of Applied and Creative Arts, Universiti Malaysia Sarawak*

'The Sacred Toilet' is a fantasy adventure game designed for three to six players. All the players are chosen from three different clans of indigenous groups residing at different parts of Kuka Island. This game is built to advocate for access to clean and safe toilets for all. It comprises a game board with multiple game pieces and game mechanics similar to 'Snakes and Ladders'. The target audience is children aged 7-12. Besides promoting necessary hygienic toilet ethics through team players, this game promotes the need for an ecological green environment among the players through its game mechanics, dynamics, and aesthetics. It is suitable as a learning tool for school children to create awareness among them on the importance of leading a healthy lifestyle through hygienic surroundings, as well as to nurture the spirit of team work in solving problems and to support sustainability of nature to continue supporting life forms on earth.

This research was supported by UNIMAS Special Grant Scheme (Grant No. F03/Spgs/1545/2017).



Figure 1: The final concept board and game board

CLIMATE CHANGE EFFECTS ON AQUACULTURE PRODUCTION PERFORMANCE IN MALAYSIA: AN ENVIRONMENTAL PERFORMANCE ANALYSIS

Researchers: Rosita Hamdan¹, Azmah Othman² and Fatimah Kari²

¹*Faculty of Economics and Business, Universiti Malaysia Sarawak*

²*Faculty of Economics and Administration, University of Malaya*

This study identified the effects of climate variability as an environmental pressure on aquaculture production in Malaysia. Using Malmquist index approach, the analyses were applied to brackish-water ponds and cage aquaculture sectors in six states in Malaysia from 1993 to 2013. The Dynamic Malmquist Data Envelopment Analysis results reflected that environmental technical change is the main factor behind the improvement of environmental performance index in pond production while the relative eco-efficiency is the major influencing factor in environmental performance index in cage aquaculture. Moreover, Pahang is the most efficient state in environmental aspects and technical support of brackish-water aquaculture ponds and cage activities, while Selangor is the least efficient state in aquaculture activities and under high climate change risks.

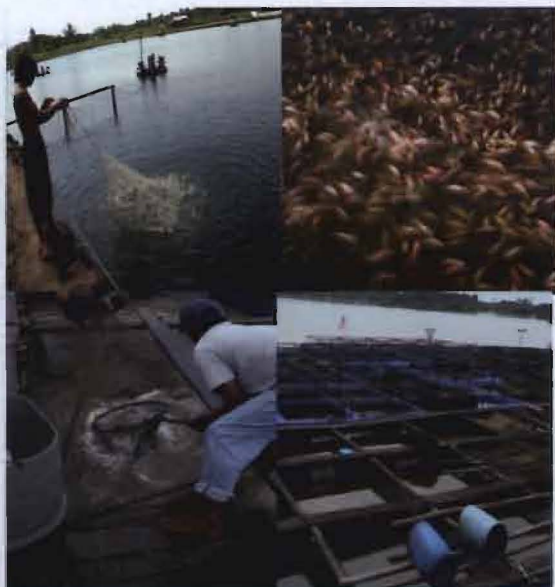


Figure 1: Pond aquaculture (above pictures) and cage aquaculture (below pictures) activities in Malaysia

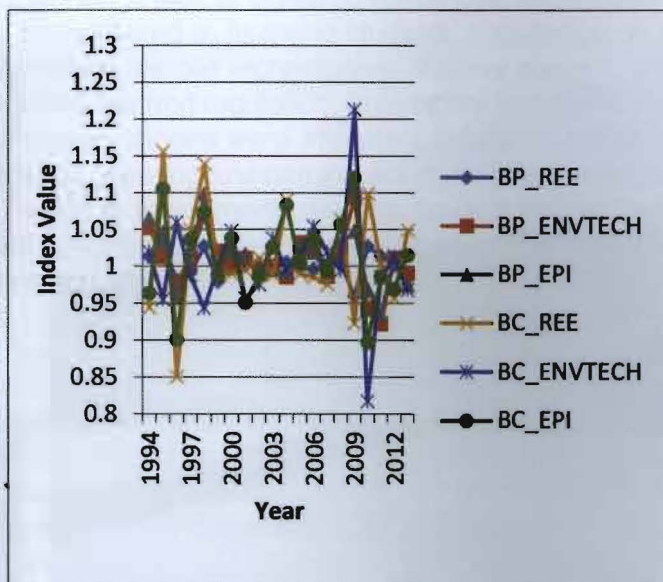


Figure 2: Annual changes in environmental performance and its components for brackish-water ponds and cages, 1993 to 2013

CONSTRUCTING POTENTIAL ADAPTATION STRATEGIES TO CLIMATE CHANGE IN SARAWAK'S AQUACULTURE SECTOR

Researchers: Rosita Hamdan¹, Azmah Othman² and Fatimah Kari²

¹Faculty of Economics and Business, Universiti Malaysia Sarawak

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Climate change is a global threat that challenges the sustainable growth of the global and national aquaculture sector. Focusing on the economic based approach, this study aims to construct farm level potential adaptation strategies in Sarawak's aquaculture sector by measuring the adaptation cost and farms' profit, and indicate the potential resources allocation management as factors of adaptation. The potential adaptation options assessment includes three different climate adaptation scenarios with different environmental regulations and farm management options models. This study gathered farm activities data of 74 representatives of pond aquaculture farmers and the farms optimisation models were analysed by using chance constrained programming analysis. The pond aquaculture farms assessment results revealed that in term of adaptation cost, there is a direct relationship between marginal abatement cost and emissions reduction target. Also, there was inverse relationship between farm profits and stringent level of environmental regulations on farm activities, and the optimal allocation of farm resources options in adapting risks. This study contributed to micro-level adaptation study enrichment, and proposed solutions at the community or farmer's level and to the National Climate Change and Environmental policies.



Figure 1: One of the pond aquaculture farms practicing the low cost technology and good farm management practice in Bau, Sarawak



Figure 2: Pond aquaculture farmer (survey's respondent) shared information on his farm management practice and activities

CULTIVATING PRODUCTIVE PRACTICES IN DIGITAL AND MEDIA LITERACY AMONG SECONDARY SCHOOL STUDENTS IN SARAWAK

*Researchers: Shanthi Balraj Baboo¹, Ambigapathy Pandian², Soubakeavathi Rethinasamy², Joseph Ramanair²,
Chen Siaw Wee³, Ngu Ik Ying⁴, Mohd Zin Nordin⁵ and Sheila Yvonne⁶*

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Sarawak is advancing major plans in digitising the state's economy to establish a productive future for its diverse communities. Chief Minister Datuk Amar Abang Johari Abang Openg has sculpted an impressive roadmap for Sarawak to develop a digital ecosystem that will facilitate the participation of Sarawakians in personal, public and economic experiences at local and global levels. This modern vision of Sarawak impels us to design research that explores the growth of new media environments that impact upon the lives and everyday relationships of different local communities. The project aims to examine digital and media practices among young people in Sarawak. The focus on young people was crucial as digital information is fast becoming the main source for them to share experiences. They scroll on texts, tweet or get on Wi-Fi to socialise, to do their homework and to connect to the world. As users, they create content, and some of this content goes viral and is viewable by huge audiences. It is therefore, important for us to understand the forms of competences, opportunities and risks encountered in their digital life worlds. The study in Sarawak is based on 200 students aged 16. Two schools have been selected to participate in this project which encompasses two phases. The first phase of the study involves self-assessment by the students. A survey has been designed to look at digital competences, knowledge and practices by these students. In addition, a test is administered to examine students' knowledge on nine areas such as technical operation, information navigation, mobile technologies, creative content, critical understanding, digital citizenry, internet safety as well as law and regulation. Preliminary findings revealed that new media technologies like computers and mobile phones were important fixtures in the lives of children and enabled them to engage in communication, learning and gaming activities. There were many reasons as to why these young students were attracted to these media devices: firstly, it helped them to communicate; secondly, respondents also believed it helped to make learning become more interesting; thirdly, it offered them entertaining and informative reports and stories; fourthly, it allowed them to do creative works (clip arts, song remix, painting, etc.) and finally, they could share media materials (songs, videos, photos) and express their thoughts on many issues. The second phase of this study will be conducted in July where sixteen students from each school will participate in digital and floor games and engage in critical thinking skills to a wide range of issues confronted in today's dramatic digital world. The students will then design digital posters and make short videos on topics related to young people's media lives. This action-oriented project will bring young people to think about positive and productive practices in their lifeworld. The study will also develop a Media Literacy Measurement Framework to identify the different level skills and engagement with online services and activities among young people. It is hoped that the above research outcomes will spur conversations that will support Sarawak state's mission in empowering local communities.

This research is funded by the Malaysian Communication and Multimedia Commission.

DESIGNING AND DEVELOPING THE MALAYSIAN MECHANICAL, ELECTRICAL AND ELECTRONIC ENGINEERING CORPORA OF NOVICE AND PROFESSIONAL WRITING IN ENGLISH

*Researchers: Radina Mohamad Deli¹, Ting Su Hie¹, Chuah Kee Man¹, Shahrol Mohamaddan²,
Nur Tahirah Razali² and Suhaila Saeed³*

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It is often argued that novice engineers lack the communication skills needed for the professional workplace. In the field of engineering education, this problem can be addressed by studying the language used by novice and professional engineers. To date, researchers have mainly developed student engineering language corpora based on textbook selection. The actual language production by novice or student and professional engineers however, has remained largely under-explored. The study thus aims to design and develop two specific corpora comprising the written works of Malaysian novice and professional engineers in the fields of mechanical, electrical, and electronic engineering. The need to create the two separate corpora is based on issues pertaining to the possible discrepancy in the language used by student and professional engineers. Using Multidimensional Analysis and qualitative methods, Conrad (2014) compared a small number of registers of student and practitioner writing in the field of civil engineering and found a mismatch between the former's writing skills and the demands of writing in the workplace. The main reason for choosing the three sub-fields in engineering is the limited number of corpora available which cover the three inter-connected fields of engineering and the fact that in actual engineering industries, it is difficult to separate interconnected disciplines into isolated fields. For the purpose of corpora-building, data from hand-written or typed scripts of undergraduate students' assignments and reports, as well as actual writings and reports from engineering companies and relevant industries will be collected, and put into machine-readable form. A total of 100 scripts from students and 50 from professional engineers will be compiled and categorised according to genre or types. The data will be stored digitally and further annotated using the WordSmith tool for corpus metadata, and parts of speech (POS) such as noun, verb, article, and punctuation. The data will also be annotated for lemma or word family. The Malaysian Mechanical, Electrical and Electronic Engineering Corpora of Novice Written English (MMEECN), and the Malaysian Mechanical, Electrical and Electronic Engineering Corpora of Professional Written English (MMEECP) will consist of at least 100,000 tokens each. This study will produce a comparative profile of novice and professional engineering language in terms of types of writing and vocabulary used. This will potentially reveal the gaps between non-professional and professional writing as well as usage or mastery of the relevant engineering terminology. On a larger scale, the building of these corpora may aid academics, professionals, and language researchers to describe or investigate, in a systematic manner, various linguistic elements and situations relevant to the two contexts. Ultimately, findings could be used to familiarise engineers in-training with elements of written language which forms part of the 'textual competence' demanded for professionalism.

This research was supported through research grant no: C02/SpGS/1558/2017

DESIGNING ENGLISH CLASSES: LIFE PRACTICES AND LOCAL COMMUNITIES

Researchers: Ambigapathy Pandian¹ and Shanthi Balraj Baboo²

¹Faculty of Language Studies and Communication Studies, Universiti Malaysia Sarawak

²School of the Arts, Universiti Sains Malaysia

Learning practices must change in the Malaysian classroom in order to overcome the many challenges that are faced by contemporary communities. The educational alliance between Malaysian and international literacy scholars from Australia, United Kingdom and America provoked us to think about global transformations in designing learning environments that are appropriate to the changing world. We were attracted to Cope and Kalantzis's work on Multiliteracies and Learning by Design that focused on four core components: experiencing, conceptualising, analysing and applying, and attempted to adapt this framework in selected Malaysian schools. The study involved numerous projects from 2002 till 2010. Our research projects found out that new and transformative literacy initiatives will not occur unless teachers themselves felt the need for such a transformation. Teacher-centred styles, exam-oriented classrooms, mostly text-based materials that advanced rote and memory-based learning were found to be barriers to an education that could stimulate critical, creative and caring thinking in many learners. Our research projects involved teachers and we were interested in their roles, pedagogies and their use of new technologies in designing lesson plans. One successful case study emerged in the teaching of English when two teachers from different schools came together to re-invent their classes. Using the Multiliteracies and Learning by Design framework, they designed learning materials and experiences that dwelled on local communities and lifeworlds. Their English classroom lesson deliberated on the differences between living in urban and rural areas. The students explored the life practices in a town and in a fishing village, such as the differences in the physical and cultural living settings of the two communities. The students were asked to locate information from their observations and chats with communities, narrate actual life stories, take photographs, browse the Internet, build a glossary of words, images and meanings, express opinions on differences of living in a town and in a village and design a dream town or village. The projects revealed that the researchers, the teachers and the students were going through a process of self re-creation, filled with dynamism in offering possible paths to improve the human futures of our local communities.

Multiliteracies in Education: Research and Development Perspectives with a Focus on Forms of Literacy in English in Schools in Malaysia, MOSTI Research Grant.



DEVELOPING DISASTER RELIEF PROTOCOL FOR RIVERINE COMMUNITIES ALONG RAJANG RIVER

*Researchers: Elena Chai, Uchibori Motomitsu, Soda Ryoji, Robinson Benedict, Iris Ng, Nik Azma bin Nik Day, and Melvin Foo
Faculty of Social Sciences, Universiti Malaysia Sarawak*

The aim of this research is to identify the hazards/disasters coping mechanism used by local communities in order to complement and initiate improvement in government's disaster management programs. Fieldwork was conducted in 28 longhouses and villages along Rajang River, the longest river in Sarawak. The hazards/disasters of each longhouse/village were identified through interviews with villagers and tuai (headmen). The views and perceptions of local communities on the government's disaster management program such as the process of informing, reporting, and aid distribution were gathered. The coping strategies and responses of local communities in the advent of hazards/disasters were documented and analysed. The outcomes of this research indicate that riverine communities along Rajang River face different types of hazards/disasters even though the geographical location of the longhouses or villages is within close proximity. The recommendation of this research points to the need for a re-examination of the government's disaster management program to accommodate the different nature of hazards/disasters. Based on the data and information collected the research team designed three relief protocols for flood, fire, and riverbank erosion. These protocols could alleviate the situation faced by the communities while waiting for local authorities to take action. The team proceeded to propose the three relief protocols for riverine communities of the Rajang River to the local authorities such as the Sibu Resident Office, Sibu District Office, Kanowit District Office, Department of Irrigation and Drainage, Fire and Rescue, and Police Departments.

This research was supported by Fundamental Research Grant Scheme (FRGS/SS05(03)/1294/2015(11)



Figure 1: Flood at Ngemah



Figure 3: Riverbank erosion at Kampung Bedil



Figure 2: Fire at Rumah Anthony Ajut

DIAGNOSTIC AND CLASSIFICATION SYSTEM FOR KIDS WITH LEARNING DISABILITIES

*Researchers: Rehman Ullah Khan, Julia Lee Ai Cheng and Oon Yin Bee
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Becoming literate is an important milestone in a child’s scholarly life and a pathway to academic success into adulthood. However, around the world and in Malaysia, there are children who continue to fall between the “cracks” and are left behind. All such children need help, but due to limited resources, logistics, and social stigma, they are unable to get the support that they require. Therefore, there is a need to develop low cost and automated systems to provide diagnosis to support children with reading disability. One specific reading disability is Dyslexia which affects word decoding and spelling, and is found in about 10-15% of the school-age population. This research used an important theoretical framework called the Simple View of Reading to explicate subgroups of poor readers. The researchers designed a series of tests such as for word reading, spelling, reading comprehension, and vocabulary. The respondents in this study comprised 857 Malaysian children. This study used only parameters, word reading, and spelling to diagnose and classify the children. A machine learning algorithm called K-Nearest Neighbor Classifier was also used. The machine learning based system was trained to diagnose and classify new children. The data obtained were divided into training set (70%) and testing set (30%) using cross validation of Scikit Learn. While the system is trained by the training set, the testing set was used to test and validate system accuracy. Scikit Learn metrics module was used to determine the accuracy of the system. The test showed that system achieved 98% accuracy.

This research was supported by Universiti Malaysia Sarawak through research grant No. F04/SGS/1453/2016(05).

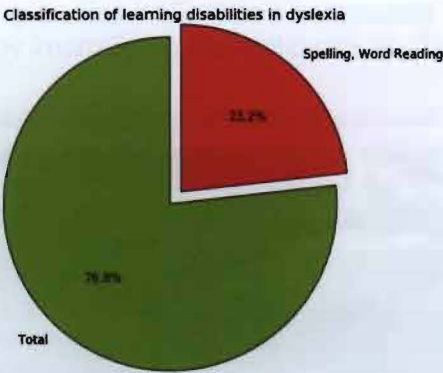


Figure 1: Classification of training set (70%) of data

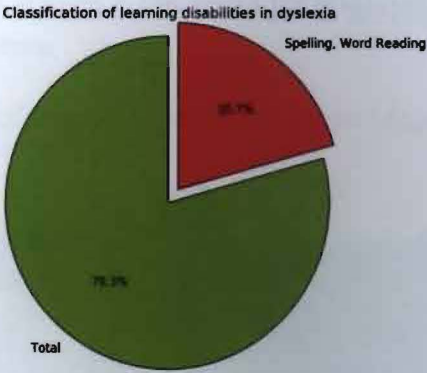


Figure 2: Classification of unseen data

DOES TOURISM ALLEVIATE POVERTY IN SARAWAK? THE MODERATING EFFECT OF TOURISM RESOURCES

*Researchers: Komathi Wasudawan and Rossazana Ab-Rahim
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Pro-poor tourism concerns positioning tourism development growth to enhance the livelihood of local communities'. Any type and size of tourism business that contributes to benefit the local communities' is considered as pro-poor tourism. Additionally, the United Nations World Tourism Organisation (UNWTO) has observed that the increase in tourist arrivals has significantly contributed to poverty alleviation. Tourism is a unique because consumption occurs at the place of production. The development of tourism resources (i.e., cultural, natural, wildlife, rural and physical) brings cash and non-cash benefits to the community who operates these resources. Therefore, the objective of the study is to investigate the moderating effect of tourism resources in strengthening or weakening the economic relationship in tourism development namely the local economy, entrepreneurship, and employment generation in alleviating poverty. The study areas selected involved directly incorporated tourism channels from Kuching and Miri divisions and a total of 680 questionnaires were distributed in these two Divisions. SmartPLS 3.0 (M3) was applied to assess the structural equation modelling (SEM) and to measure the hypothesis relationship among the variables. The findings showed positive results for local economic development, tourism entrepreneurship, and employment generation. However, the results with moderator interaction for the local economic development, tourism entrepreneurship, and employment generation were non-significant. While tourism development has a very strong positive impact on pro-poor tourism through the increase in household incomes among the local communities in Kuching and Miri, utilising the tourism resources at the economic level showed weak statistical relationship.

This research was supported by the Ministry of Higher Education through a research grant No. NRGs/1091/2013 (05) JPT.S (BPKI) 2000/04/07/03



Figure 1: Kampung Annah Rais in Padawan utilises the rural, natural and cultural resources in generating income



Figure 2: The Wind Cave in Bau is utilising the physical tourism resource to attract tourists

E-DIVO (ETHNOGRAPHIC DIGITAL VISUAL ORGANISER) – ORGANISING VISUAL INFORMATION OF THE DIMINISHING TRADITIONAL ORNAMENTS WORN BY THE REMAINING RING LADIES OF EMBHAN COMMUNITY

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e-DiVo (Ethnographic Digital Visual Organiser) is an artistic and a graphical approach in documenting visual information pertaining to Social Science research. It is a system developed using Adobe InDesign and published in a Flash format as an improvised and systematic way of digitally organising visuals relating to ethnographic and cultural object study. This approach is designed to systematically organise the collection of multi-assorted data (drawings, sketches, textual record and visual images). It is a response to the previous problems encountered by researchers in reconfiguring the collected visual data on cultural objects related to the Ring Ladies of Bidayuh Embhan community. The system is an artistic approach created for a more reliable storage, accessible record, and to ease the retrieval of information related to cultural objects in the future. It is an interactive infographic system with the intention to share, collect, and compile information related to the visuals and cultural objects in ethnographic study. Through this user-friendly and interactive infographic system, the process of archiving and retrieving details on visual information especially to the researcher will be more organised and efficient. Among its outstanding features are the provision of easy access and retrieval of the required information. The information and visual data is also easy to store and to update. Furthermore, it is also easy to be produced using other software such as Microsoft PowerPoint or any web-based design. In this context, this system is designed specifically to specify the ornament of a cultural object adorned accordingly to specific parts of the body of the Ring Lady. All images and sources gathered and used are the outcome of a field research trip made to the Ring Ladies of Embhan community at Kampung Semban, Padawan. The system is an original creation by improvising the static nature of current infographic posters.

This research was supported by the Dayak Chair Grant, Institute of Borneo Studies, Universiti Malaysia Sarawak through research grant No. F03/DRC/1457/2016.



Figure 1: Front Cover

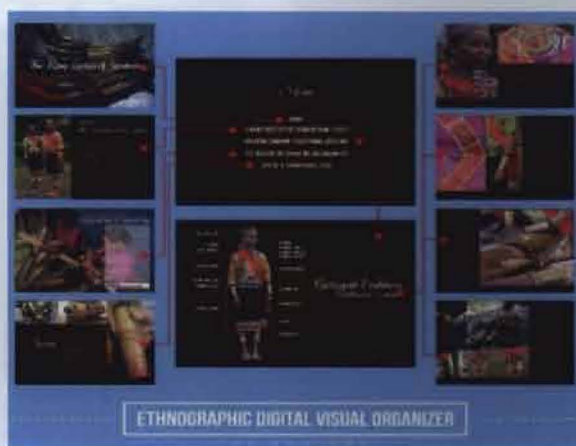


Figure 2: Interactive Infographic

ELCARE: COMMUNICATION SYSTEM BETWEEN ELDERLY AND CAREGIVERS

*Researchers: Oon Yin Bee, Lim Yan Qing, Rehman Ullah Khan, Tan Kock Wah and Prashanth Talwar Yadav
Faculty of Cognitive Sciences and Human Development, Universiti Malaysia Sarawak*

Independent lifestyle among the elderly often comes with high risks due to the deterioration of physical conditions. The number of aging population entering old folks home has increased as well. Effective communication among elderly and caregiver is thus essential. Assistive technologies play an important role for the aging population and the usability of the technology to ease communication between the elderly and caregiver needs to be investigated. A study was carried out at two local homecare centres to investigate the existing methods of communication between the elderly and caregivers and the communication challenges among them. Eight elderly and eleven caregivers volunteered to participate in the study. The elderly at these homecare centres lived in different conditions and for the purpose of this study, the elderly who were able to move their fingers and were capable of verbal communication was targeted. The participants were showed existing mobile application and a preliminary version of ElCare Communication System and were asked to explore the functionality and share based on their needs, on ways to enhance the prototype. Some communication gaps between elderly and caregivers were recorded. The findings showed that the language used for communication between elderly and caregivers from diverse ethnic groups in Malaysia remains a challenge. Requests from elderly might not be attended to, as miscommunication occurred due to language barrier. The elderly also could not speak well because of medical conditions such as mild stroke, making it difficult for them to speak properly. There is a need to provide verbal communication and graphical representations for elderly requests to the caregivers. The system would help the recording for requests easier to manage and to ease the transition for caregivers to use the database system.



Figure 1: 1st interface prototype for Elcare



Figure 2: Elderly's Interface

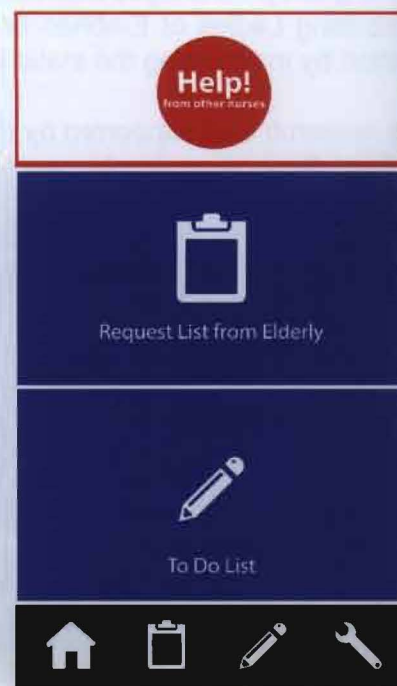


Figure 3: Caregiver's Interface

FIELD EXPERIMENT: RESPONSES OF SELECTED BORNEAN FROGS TOWARDS ADVERTISEMENT CALLS PLAYBACK

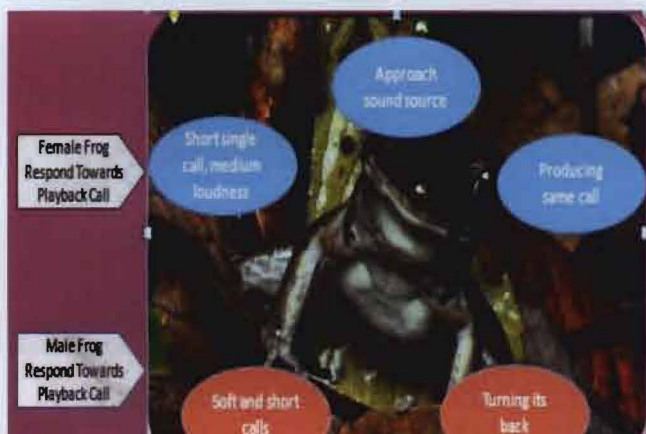
Researchers: Ramlah Zainudin¹, Muhammad Fadzil Amram¹, Najmi Naim¹ and Hasnizam Abdul Wahid²

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Advertisement calls are necessary for males and females of the same species to indicate the time for sexual reproduction. The call from male to female is to ensure the survival of the species, as only the fittest will be chosen by the conspecific female to produce progenies. This study was the first that was conducted to observe effective communication among the frog species in nature/field. If the communication takes place, the recorded calls are suitable, and can be further used as playback recording to other conspecifics as well as an application template for frog sound recognition software. The calls playback was manipulated to observe the response of both male and female frogs by playing the advertisement call of the species at their breeding sites. The calls were recorded from 43 species of Bornean frogs and were analysed to describe call characteristics using SoundRuler Acoustic Analysis ver. 0.9.6.0. Principal Component Analysis (PCA) was used to determine which variables or call character best describes calls of each species. Discriminant Function Analysis (DFA) was used to determine sound characters that can further discriminate among species of taxa being studied. Out of the 43 species recorded, the playback recording was on three species, namely *Pulchrana glandulosa*, *Pulchrana baramica* and *Kurixalus appendiculatus*. During playback, the frog's responses were recorded using a camcorder and ambient temperature data were taken and measured using HOBO Pro V2 data logger. From the acoustic playback, both male and female *P. glandulosa* responded towards the calls. The male produces a crying-like sound meanwhile the female produces a small "wik" sound. For male *K. appendiculatus*, the individuals responded by moving towards the sound source. Results show that male and female of the same species react differently towards playback calls. This shows that the breeding call recorded can be recognised by other frogs of the same species when they were played back and can be used for other applications. Recorded calls thus can be an alternative approach of classifying anuran. It is a non-invasive approach to identify species during field survey as the sounds can be heard and identification can be made without even capturing the frogs or toads. The approach of sound recognition species or sound species barcode should be made known to those agencies related to national parks, tourism, forestry, and wildlife as well as school and university especially for ecotourism purposes.

This research was supported through research grant FRGS/1/2013/STWN10/UNIMAS/02/3



*Figure 1: Responses of *Pulchrana glandulosa* during call playback*



Figure 2: Presentation on how frogs' sound relates to water cycle during International Bornean Frograce 2017 at Lundu Sarawak

HANDBOOK FOR ICT PROJECTS IN RURAL AREAS

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The main intention of writing and publishing the Handbook is to organise past case studies and best practices in different fields in handling ICT projects for rural areas. It is also an attempt to establish a common set of guidelines to show the skills and expertise needed to carry out future ICT projects in rural areas across the Asia Pacific region. The handbook is intended to assist and support Asia-Pacific countries which share similar social and economic issues for implementing effective ICT based solutions. The Case Study Team (CST) under ASTAP EG-BSG has been studying cases based on five categories which are Education, Environment, Healthcare, Agriculture/Aquaculture, and Disaster management, which were implemented through APT J2/J3 programs. In this handbook, researchers study each field in depth and in multiple perspectives, to describe areas of concerns when designing, developing, and implementing projects for communities in rural areas. It also includes information about expertise available in various disciplines from five countries in the Asia Pacific. The contents of the ICT Handbook include survey at project sites, estimation of effectiveness of introduction and methodology for the target rural communities, methods for cost estimation, the validation of cost effectiveness and method, the design of required network (core network, sensor network) and equipment selection for solution implementation, assigning responsible persons-in-charge for data-analysis and solution plan, assignment of operator(s) of the ICT solution for maintenance and sustenance, human resource development of ICT engineers for operation and maintenance, and issues of business challenges for sustainability.

This research was supported by the Japan's Telecommunication Technology Committee, as part of an Asia Pacific Telecommunity's Publishing programme for ICT Policy and Development. Grant number: GL/103/PPICT/2017

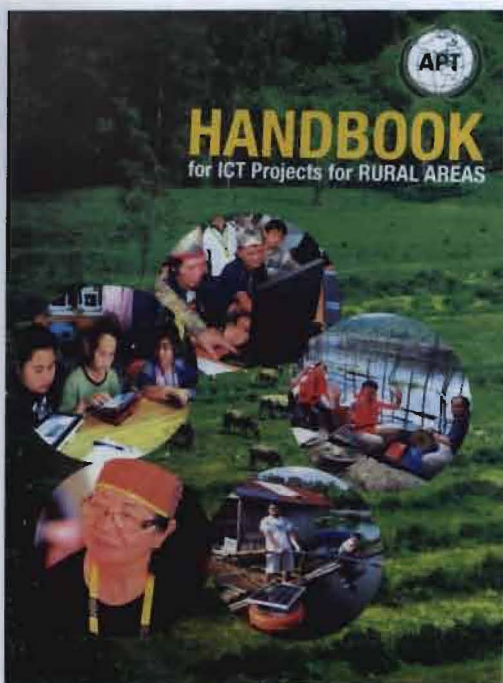


Figure 1: Cover of the Handbook



Figure 2: All countries involved in various ICT projects for rural areas across Asia Pacific, through funding from Asia Pacific Telecommunity and Telecommunication Technology Committee, Japan

HUMAN COMMUNITIES AND THEIR USES OF NATURAL RESOURCES: SELABIT VERSUS RAUNG

*Researchers: Neilson Ilan Mersat, Wong Swee Kiong, Spencer Empading Sanggin, Peter Songan, Ahi Sarok, Mohamad Suhadi bin Salleh, Mohd. Azizul Hafiz bin Jamia, Eva Kristin Larry Sait and Angelina Ansley
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This article discusses two types of handicrafts made of bamboo, rattan, wood, and tree bark commonly used by the Iban and Bidayuh communities. One type of handicraft is the Selabit or Ladong (see Figure 1) is a versatile burden basket used by the Iban in various activities while gathering firewood and fruits, going hunting, or visiting nearby longhouses. The baskets are made exclusively of wood, rattan, and the bamboo is used as the frame at the base. Like other large burden baskets, the Selabit or Ladong are made by men. The Selabit or Ladong is one of the few types of baskets which are not made in one continuous piece. The three different elements: the back frame (ikur), the sides and bottom, and the closing flap (tandut or tambu'), are made separately. First, the frame of the basket is shaped out of a piece of sturdy rattan, usually in a rectangular shape. Within this frame, the back piece is attached with rattan strips (selabit ringka) or woven into the frame (selabit anyam, selabit kelalin). Another type of handicraft is the Raung which is a type of hat made from bamboo by the Bidayuh community. For the Bidayuh Bukar-Sadong community, two types of Raung are commonly used. The bigger type which is about 16 to 20 inches in diameter is used by the farmers to protect themselves from the heat and sun. Another type of Raung has a diameter measuring about 13 to 14 inches and is used by contestants of beauty pageants (Kumau Gawai). While the knowledge in making Selabit and Raung is inherited, not all Iban and Bidayuh Bukar Sadong have acquired the knowledge to make these two types of handicraft today. It is imperative to document these products as indigenous knowledge on how the handicrafts are made, their uses, cultural significance, and even their names which need to be preserved for the benefit of the future generation.

This research is funded by the Malaysian Ministry of Education through research grant No.NRGS/1090/2013(04).



Figure 1: Selabit found in Sg Keroh, Engkilili



Figure 2: Different decorations of small raung for beauty pageant contestant in Kampung Tae, Serian



IMPACT OF KNOWLEDGE ON ACCOUNTING PRACTICES OF SMALL BUSINESSES IN MALAYSIA

Researcher: Asri Marsidi
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The growth and sustainability of any business including small businesses also known as Small Medium Enterprises (SMEs) are basically dependent upon the accounting information as it assists the small business owners to make wise economic decisions. Presently, SMEs can be considered an important industry in Malaysia. According to the Statistics Department of Malaysia in 2016, SMEs constitute more than 95 percent of the existing business establishments in Malaysia. Nevertheless, despite the importance of accounting information to the business and the role of SMEs in Malaysian economy, the accounting practices as well as the factors that affect accounting practices of small businesses in Malaysia are inconclusive. Therefore, this study is conducted to address two main objectives. First, the research aims to examine the extent of accounting practices among small businesses in Malaysia. Then, the study attempts to investigate the relationship between accounting knowledge and accounting practices among small businesses in Malaysia. The data for this study is derived from 50 randomly selected SMEs Kuching in 2016. Data were collected through the distribution of questionnaires among the owners of the selected SMEs. Multiple regression analysis was the main technique used to analyse the data. The findings of this research are expected to contribute towards enhancing the accounting practices of Malaysian SMEs from the perspective of accounting knowledge. As such, the findings are perceived as important for the success, development, and sustainability of the SMEs particularly in the Malaysian context.

This research was supported by the Special Grant Scheme, Universiti Malaysia Sarawak through research grant No. F01/SpGS/1559/2017

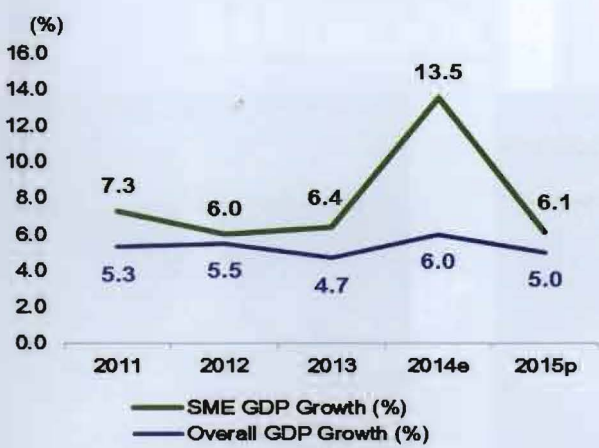


Figure 1: SMEs' Contribution to GDP

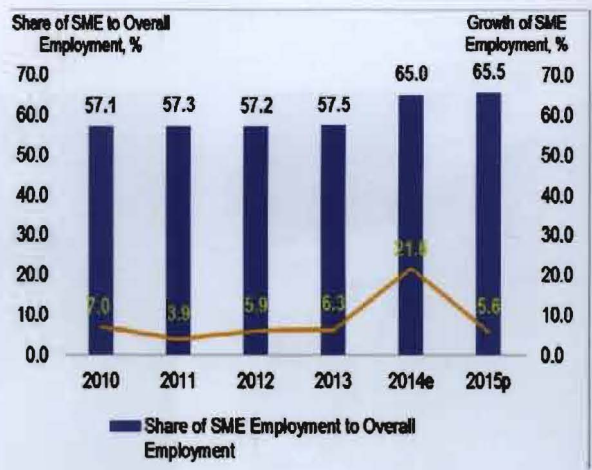


Figure 2: SMEs' contribution to Employment

INNOVATION OF RUBBER TAPPING KNIFE

*Researchers: Muhyiddin Bin Mohammed and Mahazir Bin Zakaria
Faculty of Applied and Creative Arts, Universiti Malaysia Sarawak*

This research aims to develop a new design for rubber tapping knife focussing solely on rubber trees in Malaysia. This innovative design offers more comfort and safety features, as well as a number of unique functions to help tappers in their work. Currently there are two types of rubber tapper knife blades used in Malaysia, which are the Pull knife (Figure 1), and the Push knife (Figure 2). Tappers would either bring along the Pull knife or Push knife during work based on their preferences and experiences. Only a few of them would bring both knives although these instruments are rather heavy. This research was conducted at two different locations - Kampung Biawak at Lundu, Sarawak and Kubang Pasu, Jitra, Kedah Darul Aman. The researchers found that a group of tappers in Kampung Biawak preferred using the Pull knife compared to a group of tappers at Kubang Pasu which favoured the use of the Pull knife. As such, the researchers designed a rubber tapping knife that has both blades which are interchangeable; the Pull and Push knives. This innovation, would help to ease the tappers to complete their tapping smoothly either by using the Pull or push knife. This new design for the rubber-tapping knife is more ergonomic and comfortable to hold as compared to the current tapping knives that can indirectly damage the bark of the tree. The ergonomic aspects are a factor during the development of this new tapping knife. Most of the ergonomic data were based on the anthropometry of the size of the palm of the hand (Figure 3). Figure 4 shows how the new design of tapping knife using the interchangeable Pull blade is used while Figure 5 depicts how Pull blade is used to push the bark of the tree forward until the end of the tree lane. The design is more complex and has a more interesting shape compared to existing designs. Figure 6 shows the final design of the knife.



Figure 1: Rubber Tapping Push knife



Figure 2: Rubber Tapping Pull knife

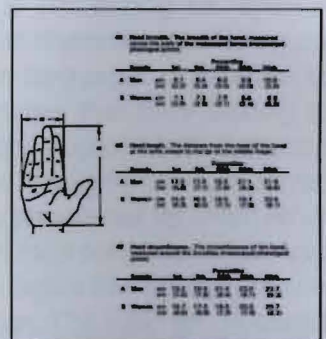


Figure 3: Hand Anthropometry



Figure 4: How to use pull knife



Figure 5: How to use push knife

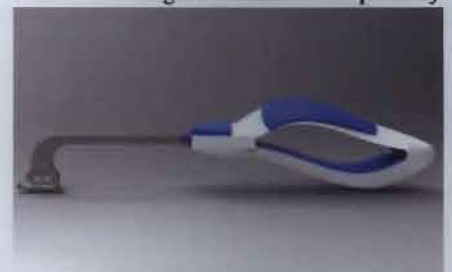


Figure 6: Final design

KNOWLEDGE AND PRACTICE OF FOOD SAFETY AND HYGIENE AMONG FOOD HANDLERS AT MEDAN NIAGA BENTENG SATOK, KUCHING

*Researchers: Saloma Pawi; Lisa Ngratini; Ong Mei Fong and Lily Lim
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Eating out has often been the preference, possibly because people have less time to cook at home. However, this trend has high risks in contracting food borne disease. Food borne disease is a very serious health problem which can cause many severe illness and even death to a person, possibly due to unhygienic food handling practices. This study was conducted to assess the level of knowledge and practice towards food safety and hygiene among food handlers at Medan Niaga Benteng Satok. It also aims to determine the factors affecting knowledge and practice, and to identify the relationship between knowledge and practice. 90 food handlers participated in this qualitative study which used a cross-sectional approach. Questionnaires on food safety and hygiene were used to illicit information. The findings showed that most of the respondents had good knowledge and practice on food safety and hygiene with total mean score of 13.36 (2.28) and 56.33 (7.78) respectively. The statistical tests showed that the factors that affected the knowledge and practice were role with p value of 0.007 and 0.033 respectively. The relationship between level of knowledge and practice were moderate ($r=0.44$) with significant value ($p= 0.001$). Continuous monitoring and periodic training incorporating basic principles of food safety and microbial surveillance of foods are essential to optimise food hygiene in the food vending business. In addition, continuous supervision by health authority on food safety and hygiene needs to be carried out to ensure that the rules and regulations of food safety and hygiene are adhered.

LANGUAGE DOCUMENTATION AND DICTIONARY RESOURCE DEVELOPMENT FOR MACHINE READABLE DICTIONARY (MRD) OF UNDERDESCRIBED AND UNDEVELOPED INDIGENOUS LANGUAGE

Researchers: Norazuna Norahim¹, Bibi Aminah Abdul Ghani¹, Mohd Fairuz Ali¹, Isabella Jali¹ and Suhaila Saeed²

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This research project attempts to provide a more comprehensive record of the linguistic practices of an underdescribed and underdeveloped speech community in Miri, Sarawak through a two-tier dictionary resource development. The community under study, the Miriek, has approximately 5,000 speakers. The project also examined linguistic affiliation between Miriek with Malay and other closely-related Austronesian languages in the territory. Dictionary resource development is a critical first step towards documentation and revival of disappearing cultures, and languages of the world. Many Orang Asli and indigenous languages of Sabah and Sarawak are still underdescribed and underdeveloped. Unlike dictionaries of written languages, which have billions of corpuses to form the basis of linguistic analyses, the dictionary resource development for indigenous languages would have to rely heavily on native speakers for the corpora. This is the greatest challenge of the research project, yet it can have great impact on the future development of indigenous languages. It is predicted that by year 2100, half of the existing 6,500 world languages are under threat of extinction within 50 to 100 years (c.f. Austin, P. <http://www.hrelp.org/>). Primarily, researchers are concerned with the detrimental impact of the hegemony of world and regional languages upon lesser languages which seems inevitable (c.f. Himmelmann, 2010; Florey, 2009). Such macro-sociological phenomenon has an adverse impact on the equilibrium of the linguistics ecology creating an imbalance that is threatening the survival of minority languages (c.f. Asmah, 1983; Martin & Sercombe, 2009; Adelaar, 2010; Norazuna, 2010). Looking at the demographical factor alone, one could foresee the threats to the survival of these languages in succeeding generations. The outcome of this project includes a lexical entry of 2000 words that is machine-readable, and a basic linguistic description of the language. The initial corpus is further utilised in research on language processing i.e. speech recognition and morphological parser. MRD has made it possible to document its distinctive phonological and morphological features, and the body of cultural meanings embodied in language. In relation to linguistic affiliation, lexico-statistics comparison between Miriek and Malay shows that they belong to different language groups and Miriek is closely related to the Lower Baram subgroup of North Sarawak languages as initially categorised by Blust in 1972. Nonetheless, some sound changes have occurred among the younger generation due to the influence of the Malay language, e.g. phonemes /q/ ->/k/; /v/ ->/b/. Implosives such as /b/ and /d/ are seen more as allophones of plosive /b/ and /d/ among many younger speakers. In aspects of morphology, Miriek shows some distinctive features unlike the Malayic-Ibanic family of languages. For instance, tense construction is marked through affixation. The infix "an" in Miriek marked the passive form as in /hurik/ 'wash' -> /han-urik/ 'be washed'. Further language development work will certainly support retention of the Miriek language, and increase its viability and chances of surviving in the next couple of generations.

This research was supported by the Ministry of Higher Education through research grant no. FRGS/SS101(01)/1079/2013(25)

LIVING MUSEUM MOBILE GUIDE (LMMG): DESIGNING FOR CHILDREN'S EXPERIENCE AT SARAWAK CULTURAL VILLAGE (SCV)

*Researchers: Mohd Kamal Othman, Ikram Ahmad, Nurfarahani Norman Anuar, Shaziti Aman,
Mohd Sofi Abidin and Mohd Firdaus Jamadi
Faculty of Cognitive Sciences and Human Development, Universiti Malaysia Sarawak*

The development and adoption of mobile guide technologies that are able to deploy multimedia guides for museum and other cultural heritages have increased in the past decade. While mobile guide technologies have been used in museums and other cultural heritage sites for more than 60 years, these technologies are fairly new to Malaysia and was introduced to the cultural places by our researchers in 2014 such as the Islamic Art Museum Malaysia. This limitation is due to financial constraints, political issues and lack of access to resources and expertise. The Sarawak Cultural village (SCV) is different from conventional museums because of its nature. The staffs at Sarawak Cultural Villages showcase the daily activities, lives and artefacts of major ethnic communities in Sarawak. Visitors to SCV, particularly children are seen wandering aimlessly due to the lack of information provided at each ethnic house. This could possibly have an impact on their overall visitors' experiences. Therefore, this study aims to design and develop an interactive game-based mobile guide for children at SCV. LMMG or Junior Anthropologist is a game-based smartphone application, which acts as a mobile guide for children visiting the Sarawak Cultural Village (living museum). It enables them to learn about various artefacts/point of interest while actively exploring the space. The app allows children to gain information from the physical environment through the digital game thus connecting the off screen with the on screen interaction. This app could enhance their experiences by enabling a learning component in a more innovative way and creating a meaningful experience that could connect the physical and digital environment. The game is designed to address the ability to sustain game play when visitors/players have to divide their attention between on-screen and off-screen elements simultaneously.

This research was supported by the Short Term Grant, Universiti Malaysia Sarawak through research grant No. (F04(S148)/1128/2014 (13).

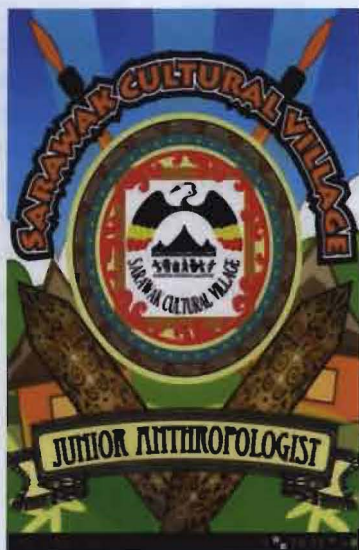


Figure 1: First Screen of the mobile guide

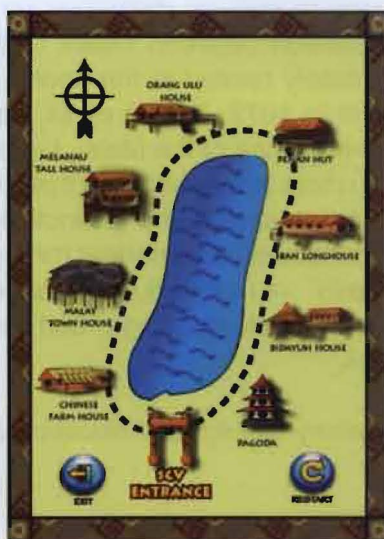


Figure 2: Main Menu of the mobile guide

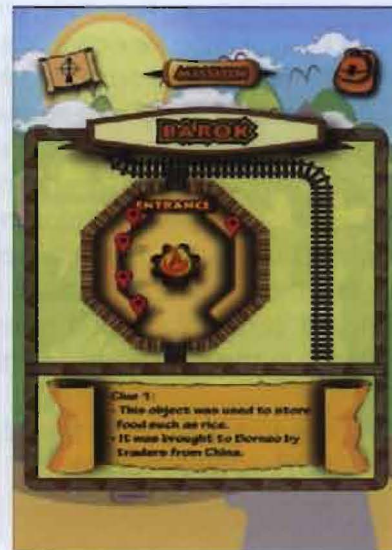


Figure 3: The clue and the corresponding point of interest (artefacts)

LIVING MUSEUM MOBILE GUIDE (LMMG): DESIGNING FOR VISITOR'S EXPERIENCE AT SARAWAK CULTURAL VILLAGE (SCV)

*Researchers: Mohd Kamal Othman and Noor Syamimi Shahiruddin
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The development and adoption of smartphone technologies that are able to deploy multimedia guides for museum and other cultural heritages have increased in the past decade. This is part of the strategy to improve museum visiting experience through four components which are (1) engagement with exhibits; (2) knowledge/learning gained from understanding and information discoveries; (3) meaningful experiences from the interaction with the exhibits or other visitors; and (4) emotional connections with the contexts and content of the exhibits. The current scenario at the Sarawak Cultural Village (SCV) suggests that there is not only a lack of information about artefacts but also staff during certain times of the day to explain about various artefacts available. These limitations result in visitors wandering aimlessly thus affecting their experience. This research is conducted to explore, design, develop, and evaluate the use of mobile guides' technology (smartphones in particular) at cultural heritage sites especially living museums. In addition, this research was conducted to understand the impact of the mobile guide technology on visitors' experience by measuring their experience while using the mobile guide for cultural spaces particularly at the living museum where one app/device was integrated onto and can be access before, during, and after the visit. LMMG is an information based smartphone application, which acts as a mobile guide for visitors to the Sarawak Cultural Village (living museum). It enables visitors to learn about various artefacts/point of interest while actively exploring the space. The app allows visitors to gain information from the physical environment through the digital information presentation thus connecting off screen with on screen interaction. This app could enhance visitors' experiences by providing a learning component in a more innovative way during the museum visit. This research has its merit on the design, development, and evaluation of mobile guides in living museum. A rigorous evaluation was conducted to measure visitors' experiences and at the same time the framework was tested to show the importance of the framework that was developed.

This research was supported by the Short Term Grant, Universiti Malaysia Sarawak through research grant No. (F04(S148)/1128/2014 (13).



Figure 1: First Screen of the mobile guide



Figure 2: Main Menu of the mobile guide



Figure 3: Information about various artefacts

MODELING MALAYSIA DEBT THRESHOLD: DEBT COMPOSITION (DOMESTIC DEBT; EXTERNAL DEBT; HOUSEHOLD DEBT)

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Malaysia is one of the fastest growing economies in the Southeast Asia region which experienced challenging tasks in managing increasing level of debts. Accumulation of debt is unavoidable due to the need to acquire capital to overcome negative implications of the external economic shocks such as the global financial crisis, currency fluctuation, and volatility in oil prices. Additionally, the significance of debt impact on the economic growth may be affected by the type of debts. These debts refer to domestic debts and external debts where fundamentally the nature of the debts is related to the denominated currency of either the local or foreign currency. The total debt level of Malaysia is approximately 55% of GDP in 2015. In terms of debt composition, domestic debt recorded approximately 37% of GDP while external debt stood at 18% of GDP in 2015. This study intends to investigate the implication of the debt (domestic debt, external debt, and household debt) on the economic growth of Malaysia by adopting Threshold regression method for the sample period from 1980 to 2015. In addition to estimating the long-run impact of debt on growth, this study further captures the heterogeneous impacts of the debt towards economic growth based on different debt threshold levels. The debt threshold levels are determined endogenously by utilising the Bai-Perron (2003) approach. Empirical findings indicate that the threshold level for domestic debt is approximately 47% of GDP, external debt 17% of GDP, and household debt 81% of GDP. This means that the accumulation of the debt has positive impact on the economic growth of Malaysia when the debt level is below the threshold level. In terms of policy recommendation, it is crucial for the government to ensure that the debt level is at optimal level and is manageable. This is due to the fact that accumulation of debt is unavoidable for economic growth in the event of economic downturn. The government should safeguard that the debt is for development purpose in the long-run rather than for financing the payment of the debt interest. The Malaysia debt composition presently is dominated by domestic debt instead of to external debt, which enables the government to have control on debt management. Despite that, promoting awareness among the household with regards to their rational consumption decision is critical. This effort is important to ensure that consumers spend wisely instead of over spending, which contributes to the growth in household debt.

This research was supported by Universiti Malaysia Sarawak Special Grant Scheme: F01/SpGS/1415/16/16

NEEDS AND ASSET-BASED TOURISM DEVELOPMENT AMONG ORANG ASLI FRAMEWORK: AN OVERVIEW

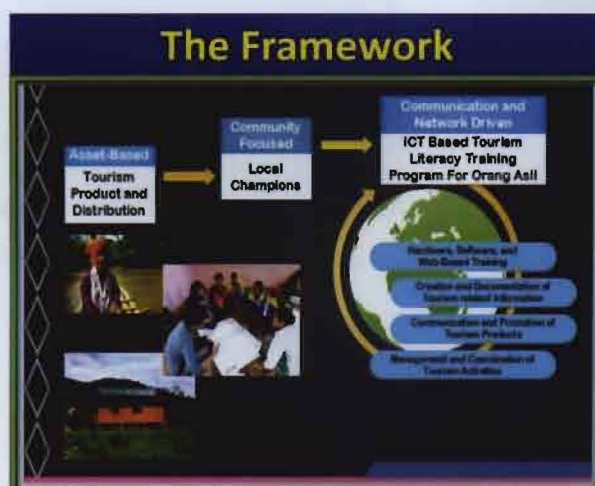
Researchers: Dayang Aizza Maisha Abang Ahmad¹, Siti Fateha Dolhadi², Claudia Jiton², Ahmad Nizar Ya'akub², Dayang Hajyrayati Awang Kassim², Jamali Bujang Sanawi¹, John Phoa² and Poline Bala²

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The Needs and Asset-Based Tourism Development among the Orang Asli framework is part of the outcome of the socio-economic development initiatives conducted under the Telecentre Programme for Orang Asli (TPOA) West Malaysia. This framework is developed based on the research findings obtained from series of focus group discussions, interviews, community mapping, as well as observations made on the physical and social environment of the communities by the TPOA researchers from 2014 to 2016. It puts into perspective the application of Sustainable Livelihood (SL) approach in the identification of needs and mobilisation of local assets for the development of tourism in the Orang Asli settlements. Pos Lenjang and Pos Gob are settlements of the Semai and Temiar (sub-groups of Orang Asli), situated at approximately 60km from Kuala Lipis and 100km from Gua Musang, respectively. Located within the fringes of the rainforest, both settlements possess the suitable landscape, agricultural produce, arts and culture that can potentially be diversified and commercialised for tourism development. Based on the outcome of needs analysis and asset-mapping exercises conducted through years of community engagement, the framework illustrates the vital aspects, determining factors, and steps implemented to develop tourism activities at the settlements. This includes the Information and Communication Technology (ICT) Based Tourism Literacy programme that has been implemented and progressively improved to equip the Orang Asli community with the ability to search and use information online effectively. Training sessions with specially designed curriculum centred on the usage of ICT will assist the Orang Asli with pre-requisite capacities and know-how in utilising technologies to their socioeconomic advantages. With the use of telecentre and ICT, future tourism products and services supplied by the Orang Asli can be independently managed and directly communicated to prospective tourists and industry partners without much intervention from the intermediaries; hence moving beyond the present practice of product distribution and generation of income. Cognizant to the changing demand and landscape of the tourism industry, the framework places importance on the primary role of the telecentres in providing the Orang Asli with unprecedented opportunities to communicate interactively and generate creatively, the information of their tourism products and services to a more diverse and larger scope of tourists.

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NEW TECHNIQUE FOR CARDIAC OEDEMA IDENTIFICATION

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Cardiac magnetic resonance (CMR) is one of the most popular diagnostic technologies that can be used to observe the behaviour of the human heart. Cardiac magnetic resonance images (CMRI) that were produced upon scanning a patient can be used to estimate the percentage of oedema that exists in the heart. Cardiac oedema is a build-up of fluid in the interstitial tissues and cavities of the body as a result of congestive heart failure. In order to estimate the oedema, cardiac experts have to perform semi-automatic CMRI tracing of the left ventricle (LV) walls and oedema area. This approach does not only time consuming but depends heavily on human expertise. Through in-depth research, we discovered a solution for automatic oedema detection and prediction of oedema volume using CMR-LV short axis images. From a set of CMRI scans of a patient, we first performed automatic localisation of LV, followed by the endocardium and epicardium wall segmentation, and the oedema tissue detection. Each of this process consists of several combinations of new computational algorithms. The proposed technique has been tested using a well-known international standard database, namely Sunnybrook Cardiac Data (SCD) published by the Health Sciences Centre Toronto hospital and PJHUS cardiac dataset where all the patient data were collected from the Sarawak General Hospital Heart Centre. The results obtained were promising.

This research was supported by the Ministry of Higher Education, through the Exploratory Research Grant Scheme: ERGS/ICT07(02)/1019/2013(16).

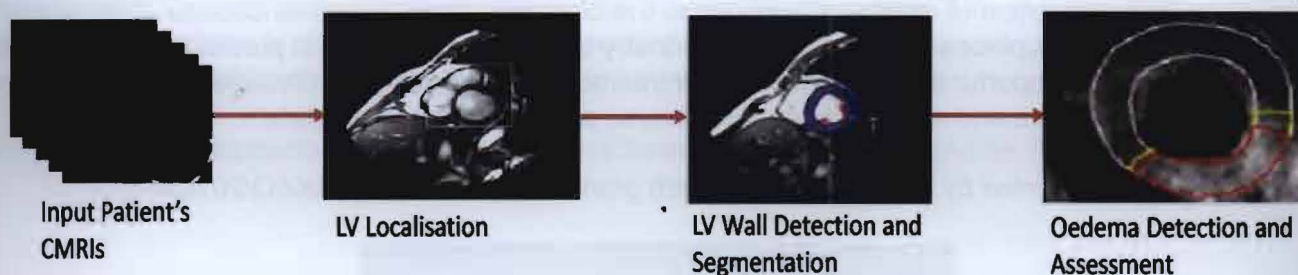


Figure1: The overall process of the proposed approach for automatic oedema identification

NYPASIPS – A HEALTH DRINK FROM NIPAH SUGAR (GULA APONG)

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Gula Apong or nipah sugar is distinguished as a semi-solid dark to light brown sugar, marketed in clear plastic tupperwares. It is obtained from the sap of flowering nipah palms (*Nypa fruticans*), a type of wild, stemless palm that inhabit most riverbanks in the tropics. The sap deteriorates and turns sour promptly due to microbial activities. In the absence of a freezing facility, the only option is to boil the liquid sap for about 3-4 hours into semi-solid brown sugar which then has a longer shelf-life. Usually, nipah sap is priced at RM10/L, the same price for 1kg of nipah sugar. However, approximately 5L of nipah sap (valued at RM50) is needed to produce 1kg of nipah sugar (RM10), a loss of RM40 to the nipah sugar producers. The main objective of this project is therefore to produce liquid nipah sugar from the solid gula apong not just to gain back this loss, but also to add value for money to the final product. Nipah sugar is mixed with distilled water (DW) at 1:10 to produce Liquid Nipah Sugar. Upon pretreatment and processing, the mixture is micro-filtered to produce a clear brown liquid, named Brown Nipah Syrup (BNS). Consumption of BNS is beneficial to health due to the presence of phenolic and flavonoid compounds. It was observed that 1L BNS contains an average of 0.5g phenolics and 0.4g flavonoids. BNS is purified using Powdered Activated Charcoal (PAC) to remove all impurities and colour to obtain White Nipah Syrup (WNS). This process inadvertently removes 50% of phenols and flavonoids to about 0.25g/L and 0.2g/L, respectively. The product is named NypaSips, containing sucrose (78.4 g/L), glucose (32.3 g/L) and fructose (31.4 g/L). The nipah palm therefore has tremendous potentials to be utilized as another source for production of sugar and other value added products. However, in the absence of proper cultivation and marketing of gula apong in its current form, it will remain a traditional product that is challenging to be commercialised.



Figure1: Marketing of Nipah Sugar (Gula Apong) in plastic containers



Figure2: Nypasips – a health drink produced from semi-solid Nipah Sugar.

PERFORMANCE INDEX FROM HETEROGENEOUS RISK AND GOVERNANCE STRUCTURE OF MALAYSIAN LISTED COMPANIES

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This study investigated the topic of corporate governance which is an important aspect to guide companies in overseeing risk undertaking. In order to oversee risk management efficiently, independent directors are engaged as part of fulfilling corporate governance requirements and as an oversight board. It will further explore the common traits of corporate governance compliance and the extension of risk element undertaken among companies that have succeeded (MSWG, 2011), and the characteristics of risk and the corporate governance of failed companies (classified under N17 in Bursa Malaysia). An equation that developed an index of risk and governance for companies listed on the Bursa Malaysia to attain sustainability as a going concern was formulated. Risk is expected to be examined as it is pertinent to liquidity risk, financial risk, and strategic risk. A construct that represent each risk were identified and a statistical ratio was extracted to be developed into an index. The research design was divided into two stages. First, the study explored the viability of the firms by maximising utilisation of independent directors (ID) in the common ID committee that has been adopted for the last 12 years (Tinggi et al, 2014) for successful companies (31 firms from MSWG, 2011) and another from Failed companies (N17 firms, Bursa Malaysia 2014). Second, is the factoring of both corporate governance and risk issues and translating them into index score, and run GMM dynamic panel to test for sustainability as a growing concern. $Susit$ is a function of $\alpha + Susit(it-1) + \beta_1 Bdit + \beta_2 Noit + \beta_3 Auit + \beta_4 LQit + \beta_5 FRit + \beta_6 Strit + \lambda_i + u_{it}$ (Arellano & Bover, 1995; Blundell & Bond, 1997; Roodman, 2009). An Index score for both successful (>80 % score) and failed (<50 %) companies were formulated. Finally a cumulative average weighted score was computed to reflect both successful and failed companies from corporate governance and risk perspectives.

This research was supported by the Universiti Malaysia Sarawak through research grant No.F01/SpFRC/1437/16

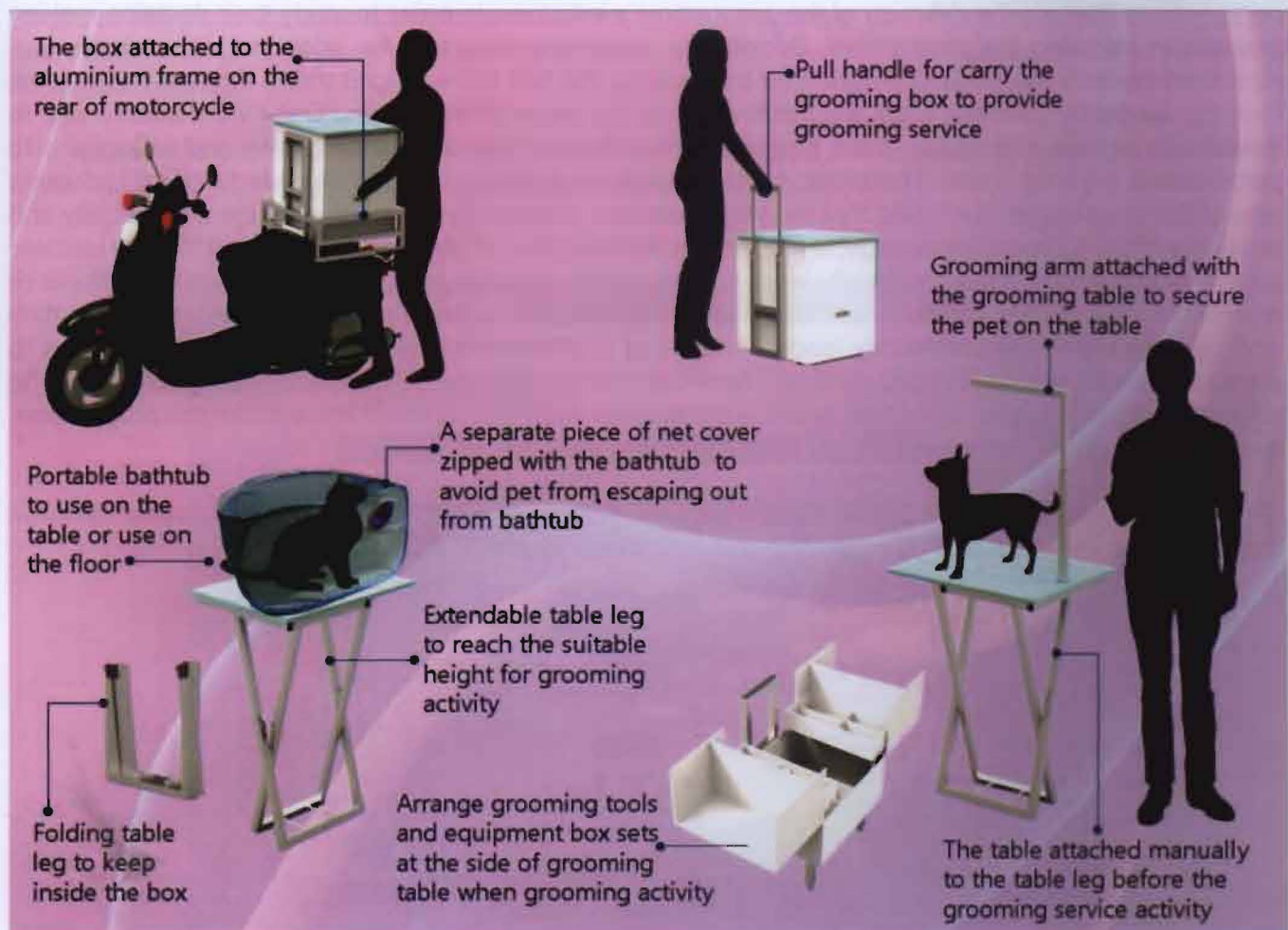


Figure 1: Going Concern companies improve market wealth

PetEX: MOBILE PET GROOMING SERVICE

*Researchers: Faridah Sahari and Ti Siok Shan
Faculty of Applied & Creative Art, Universiti Malaysia Sarawak*

Pet Ex is a portable pet grooming apparatus based on the design concept of mobility for providing indoor and outdoor mobile pet grooming service. The name Pet Ex denotes pet grooming in a package on the move. Pet Ex functions as a compact storage compartment and a portable device that is attached to the rear of a motorcycle to provide door-to-door pet grooming service. In Malaysia, mobile pet grooming service is still new and only available in big cities such as Kuala Lumpur. The existing pet grooming service mainly uses vans which are equipped with bath tub, dressing table and various tools and grooming necessities. The main target user of this product and service is a person who wants to run a small business with limited capital. This concept aligns and supports the government initiative for Mobile Entrepreneurship or Mobilepreneur introduced by the Ministry of Rural and Regional Development in 2016 to spur economic growth for the youths and the lower income group. In addition, mobile pet grooming service provides convenience and is hassle free for owners who want to provide grooming and personal care to their pet in their own home.



PRELIMINARY ANALYSIS ON THE ADOPTION RATE AMONG SAGO CULTIVATORS IN MUKAH/ DALAT AREAS TOWARDS SAGO SMALLHOLDERS SATELLITE ESTATE DEVELOPMENT (SSSED) PROGRAMME

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Diffusion is a process in which an idea is communicated through certain channels over time among the members of a social system. The new idea gives special character in the diffusion process that involved uncertainty among the target group in adopting the idea. Although most past research highlighted tangible innovations (i.e. machines, gadgets) as the focus of study, no known research has yet to venture into the applicability of intangible innovation such as idea of a programme aimed at a certain community, more so in the local (Sarawak) context. Hence, the present study focuses on the Sago Smallholders Satellite Estate Development (SSSED) programme that serves as the new idea being diffused to sago cultivators by the government since 2008. This program was introduced to systematically manage the cultivation of sago and commercialisation of its products. It is pertinent to reflect on the local sago cultivators' perspectives towards the diffusion of the programme's initiatives in order to study their decision-making process in adopting the programme. Specifically, this study analyses the adoption rate (adoption vs rejection) towards the SSSED programme by applying the first three stages of the Innovation-Decision Process Model by Everrets. Eight sago cultivators in the areas of Mukah and Dalat were interviewed to investigate a) their awareness of the programme's initiatives, and b) their readiness and willingness to participate in the programme. Therefore, this study explores the link between their awareness and adoption rate of the programme. It is found that the sago cultivator community, depending on the accessibility and proximity of the source of knowledge, is moderately aware of the programme. It was found that the ultimate source of knowledge is the community leaders whose roles affect as to whether the community adopts or rejects the idea or programme. The findings also suggest that the knowledge communicated accurately and responsibly by the community leaders may lead to the community's readiness and willingness to participate and commit to the programme. Therefore, the adoption rate of the SSSED programme among sago cultivators in Mukah and Dalat areas are based on what their leaders know about the programme, and how they disseminate the information to the community.

This research was supported by the Centre for Sago Research (CoSAR), Universiti Malaysia Sarawak through research grant No. F06 (ORC25)/1231/ 2015 (12).

PRESERVING THE TREASURE OF THE BARIO HIGHLANDS THROUGH KELABIT.COM PORTAL

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²Language Academy, Universiti Teknologi Mara (UiTM)

The Bario Highlands is the homeland of the Kelabit. It is a remote and isolated rural settlement located 3280 feet above sea level on the island of Borneo, close to the Malaysia-Indonesia border between Sarawak, Malaysia and Kalimantan, Indonesia. The Kelabit is one of the smallest ethnic inland groups in Sarawak. They traditionally live in multi-family longhouses led by a headman called the Pemanca. There are about 5925 Kelabits (Sarawak Department of Statistics, 2010) and about 1300 of them live in the Bario Highlands. Others have moved out whereby most of the younger people have left for large cities to further their studies, many have married outside their community and settled overseas. The Kelabit language is the mother tongue of the Kelabit. In the mist of rapid global development and the gradual decrease in the number of its speakers, the Kelabit language is stated in Ethnologue as endangered language (Lewis, 2009). Patrick (2005) mentions that while granting rights for the indigenous communities helps to maintain their languages at the macro-level, much work is still needed to preserve their languages at the micro-level. This includes language documentation that can be used as the foundation for indigenous language education programmes. Hence, a series of research was undertaken to document the Kelabit language for the benefit of the future generations, particularly among the community itself. The Kelabit Portal (www.kelabitportal.com) was specifically designed to serve as a repository of the Kelabit language and its rich treasure. The portal includes common expressions, audio recording of conversations in Kelabit language, and Kelabit stories in the form of digital storybook and video recordings. The portal also shares Kelabit songs and recipes.

This research was supported by the Institute of Social Informatics and Technology Innovation, Universiti Malaysia Sarawak through research grant No. COERI/PK4/04/2012(02)

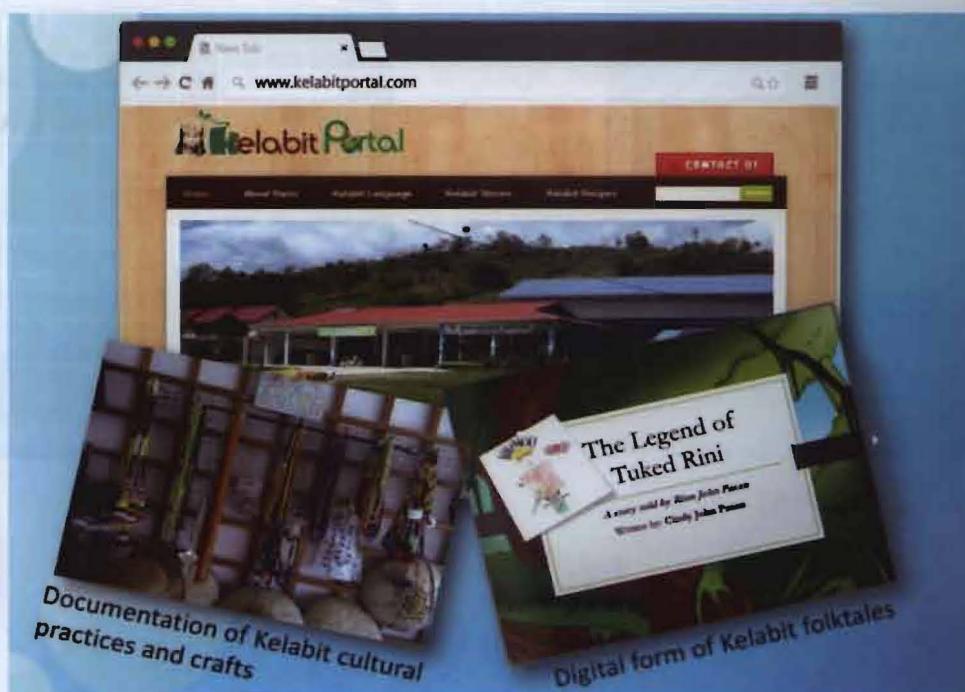


Figure 1: Kelabit Portal (www.kelabitportal.com)

SANITARY ETHICS COACHING SUPPORT: PATHWAY CLEANSING

*Researchers: Jong Sze Joon, Nurnishi Amnan, Datu Mohamad Jur Anizam Bin Datu Raiman and Garie Zwageri Anak Johin
Faculty of Applied and Creative Arts, Universiti Malaysia Sarawak*

The research examined an effective technique for sanitary education and relates particularly to board games designed for utility in a sanitation area to educate a user on various sanitary ethics. There is a need for an operative and stimulating method and apparatus enabled in a lavatory area for teaching sanitation ethics. The target users of this research are school children aged 7-12 years old. This research comprises a board game with accompanying game pieces as well as a miniature set to compliment the game. The game pieces consist of dice, playable and non-playable characters, cards, and assets. The game functions as a toilet training system using a board with start and end paths. The path is made up of step spaces and consists of spaces for reward goals. Pathway Cleansing is a turn-based strategy game requiring either two or four players to compete against one another in the field. Each player takes on a role as a sanitary worker with particular skills. This project is recommended to be used as an essential teaching tool for hygienic lavatory practices at home and at elementary schools.

This research was supported by UNIMAS Special Grant Scheme (Grant No. F03/Spgs/1545/2017).

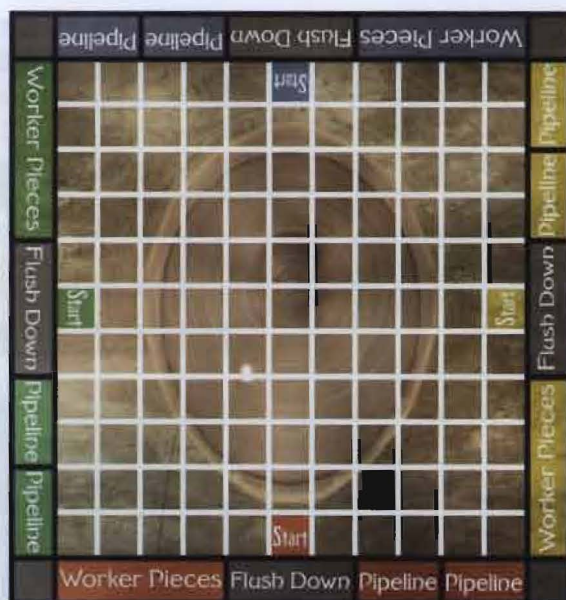
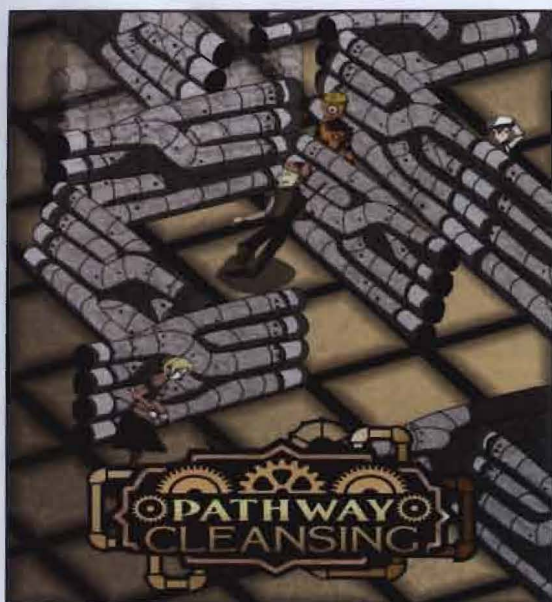


Figure 1: Concept board and the board game of 'Pathway Cleansing'

SIKURAA PIRAMIN – THE BIDAYUH HERITAGE LANGUAGE PLAYSCHOOLS AND KINDERGARTENS: INTERVIEWS WITH PARENTS AND TEACHERS

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Although written documentation of Sarawak indigenous languages is on-going, to date only Iban has been offered as an elective subject in primary and secondary schools in Sarawak. Bidayuh language has only been introduced in a number of preschools as the language of instruction. The study examined the reception of teachers and parents to the Bidayuh Heritage Language playschools and kindergartens in Sarawak. The data were collected from interviews with nine current and former teachers and 24 parents in Kampung Benuk, Sinjok, Apar, and Pasir Hilir. Since the establishment of the playschool and kindergarten in Kampung Benuk, 96 and 100 children respectively have received their early education in Bidayuh language. As for Sinjok, 54 children have been educated in the playschool and 80 children in the kindergarten. Apar and Pasir Hilir have similar student enrolment, meaning approximately 400 children have been educated in these four villages over the past ten years. The teachers affirmed the usefulness of the Bidayuh heritage language playschools and kindergartens in learning numeracy, literacy, cultural heritage, and social skills. The parents concurred with the teachers on these positive aspects. In addition, they also reported that their children also developed confidence in socialising with other children and teachers and obtained spiritual input. The heritage language playschools and kindergartens provided conducive environment for the children to engage in learning through play and fun activities. They were encouraged to communicate freely with their teachers and peers in their mother tongue and thus developed their ability and confidence to speak and to inquire. The parents also felt that the Bidayuh heritage language playschools and kindergartens had helped their children to excel academically in primary school, and they were also able to help their children in their school work because of the use of Bidayuh in the early stage of their education. Another significant result of going through the heritage language playschool and kindergarten was that the children were more knowledgeable in the Bidayuh language, customs and traditions. They were taught the Bidayuh traditional dances and were exposed to the Bidayuh musical instruments, costumes, and cuisine. They learned songs and stories in the Bidayuh language. As such they not only learned in the language, but also the culture of the Bidayuh community. The heritage language playschools and kindergartens are important avenues for preserving the Bidayuh language and culture. The study showed the importance of continuing with the Bidayuh heritage language playschools and kindergartens amidst concerns of declining enrolment due to practical reasons such competition from government funded playschool and kindergarten.



SUCCESS & HAPPINESS BY ACTIVATING REGIONAL ECONOMY (SHARE) - ICT TRAINING PROGRAMME, TANAH DATAR

*Researchers: Fitri Suraya Mohamad, Norazila Abdul Aziz, Noorhaslina binti Senin, Azwan bin Abidin, Adam Francis, Ida Juliana Hutasuhut, Siti Marina binti Kamil, Syaryfah Fazidawaty binti Wan Busrah and Jaya Laxshmi Meenatchisundaram
Institute of Social Informatics and Technology Innovation, Universiti Malaysia Sarawak*

Success and Happiness by Activating Regional Economy (SHARE) is a programme which generally aims at promoting ICT solutions that can bridge the information gap in rural areas in Asian countries and bring better lives to the community in these areas. Contributions from Indonesia, Japan, Malaysia, Philippines, Thailand and Vietnam as well as collaborative initiatives with Asia Pacific Telecommunity projects have resulted in several projects being carried out in different countries, each addressing sectors of e-Agriculture, e-Education, e-Health and e-Environment, using models of latest technologies and standards which are cost effective. These models are built based on knowledge sharing among Asia Pacific Telecommunity members and can be applied widely in developing countries as “standard” models. The ICT Training Programme commenced in 2014 at Tanah Datar, West Sumatera, Indonesia. It was designed to facilitate the training of ICT and relevant technology applications which have been developed by SHARE partners. This programme is also aimed at enabling Tanah Datar’s community to grow and extend their competencies in various socio-economic activities to ensure lifelong success and happiness as well as to produce change agents among local communities through the use of SHARE applications. In the project, local participants were trained in three courses of the e-Education component; English for SHARE Purposes, New Media Design for SHARE Purposes and Change Management. The training programme generally focused on enabling participants to create digital documents of the local and indigenous knowledge (IDK) of the people in Tanah Datar. The courses in the e-Education module included trainings on the process involved in researching the IDK and reorganising it in a form that can be shared not only with the community itself but also with other communities in the region. The course was designed using a theme-based approach and was delivered via e-Learning.

This work was supported in part by FRGS grant (i.e., FRGS/1/2013/ICT02/UNIMAS/02/1) and RACE grant (i.e., RACE/F2/TK/UNIMAS/5)



Figure 1: Participants undergoing the training programme



Figure 2: Participants and trainers at the ICT training center, Tanah Datar, West Sumatera, Indonesia

THE MOTIVATING FACTORS BEHIND MELANAU WOMEN'S ENGAGEMENT IN INCOME GENERATING ACTIVITIES: A CASE STUDY OF MELANAU WOMEN IN MUKAH AND DALAT

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Melanau women have always played an important role in supplementing their family household income. They have been actively involved in economic activities related to the production of sago-based food products. In Sarawak, sago palm is associated with the Melanau where traditionally they used sago starch to produce variety of food. This is evident in their involvement of making sago pearls, tepung lemantak (sago starch), turnpik (pancake) and selling other local delicacies that are made from sago. Sago-based food products are synonymous with the Melanau community and is considered as their staple food. Thirty Melanau women from Mukah and Dalat (15 from each area respectively) participated in this research. Interviews were mostly conducted in the belanga (bake house) either owned or rented by these women where researchers can observe the whole process of making sago pearls. At the same time, seven Melanau women were interviewed at Market Serbaguna Mukah and another six women were interviewed at Market Dalat. These women were selling sago-based food products such as sago pearls, tebaloi – a sweet and crispy crackers, tepung lemantak and a variety of sago-based biscuits. Two of the most successful Melanau women entrepreneurs, one from Kampung Tutus, Mukah and another from Kampung Medong, Dalat were also interviewed at their factories that produced tebaloi and sago pearls respectively. Findings also suggest the motivating factors that attribute to the engagement of Melanau women in producing sago-based food products apart from monetary gain are socialisation and keeping the Melanau culture and tradition alive. Most of the women interviewed in this research pointed out that participating in production of sago-based food products presented them with an opportunity to socialise with other women in their village. Sago making activity is considered as an avenue for them to catch up with each other's lives and stories. Although some preferred to make the sago pearls individually, most of the Melanau women normally gathered for the sago pearl making process and they view this as their obligation in keeping the Melanau culture and tradition alive.

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THE REVITALISATION OF MIRIEK LANGUAGE

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The term “orang Miri” is always referred to as the residents of Miri. However, “orang Miri” is also used to refer to the original inhabitants of Miri, the Miriek. In general, not many of the people outside of Miri know about the existence of this minority group, especially their language. The Miriek community, an urban ethnolinguistic minority in Sarawak, speaks a language classified as the “Lower Baram” subgroup of the “North Sarawak” language group. The Miriek were reported to be the original inhabitants of the Miri coastal area. Originally animists or Orang Ulu who came from Padang Liku and Sungai Taniku, tributaries of the Sungai Miri, they had migrated to the coastal area of Miri for safety and survival. Due to the practices of re-identification or reclassification after the conversion to Islam over more than 200 years ago, the Miriek were subsumed under different labels such as Malay, Kenyah, Melanau, and Sebop. Unlike the Orang Ulu who have retained their identity officially, the Miriek lost theirs. Today, it is difficult to distinguish the Miriek from the Malay population as they have followed a Malay way of life and speak the Malay language. The Miriek may call themselves Miriek or Malay as they conceive the occasion demands. Some examples of Miriek words are *sai aden āuh?* (What’s your name?), *lipah gutam auh?* (Where are you going?), and *mara? bato? koy.* (I am thirsty), which seemed to be very foreign to the younger generation. Earlier studies have shown that the younger generation of the Miriek community have insubstantial knowledge of their ethnic language and the only remaining active speakers of the language are members of the grandparent’s generation. While many parents’ generation of Miriek are active bilinguals, they had unfortunately, decided not to transmit the Miriek language to the next generation. In addition, the language is not particularly favoured due to the rapid socio-economic changes that necessitate the shift in the language ecology of the society. At present, the language can be considered as “endangered” and the only tie the Miriek have to their ethnic identity is their language. This has somewhat triggered anxiety among the Miriek community leaders. Thus, the Miriek community are trying to revive their ethnic language and identity. This project is led by a self-appointed leader to discuss issues and strategies to revive the ethnic language and identity of the community. To facilitate the discussion, a whatsapp group was created. The researcher was invited to the whatsapp group at a later stage. Thirty Miriek participants participated in this study. Initial analysis shows that many of the group members were angry about the labelling of the Miriek people as “Orang Ulu”. They have asked that a more recent study to be conducted on the history and culture of the Orang Miriek and are keen to be part of the study group to trace their history. On the Miriek language, the group members are currently compiling Miriek wordlist for a dictionary project at UNIMAS.

THE TECHNOLOGICAL, PEDAGOGICAL AND CONTENT KNOWLEDGE (TPACK) OF TERTIARY LEVEL ENGLISH LANGUAGE INSTRUCTORS IN INTEGRATING TECHNOLOGY IN LANGUAGE CLASSROOMS

*Researchers: Joseph Ramanair, Souba Rethinsamy and Jecky Misieng
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Technology is now an integral part of education. It offers much potential to enhance teaching and learning not only in the classroom but beyond it, making education accessible via cyberspace. The significance of technology to education has been also recognised an integral part of the 10 shifts outlined by the Malaysian government in the National Education Blueprint 2015 – 2025 (Higher Education) to ensure that online learning becomes the main pedagogical approach in higher learning institutions. The powerful potential of technology however, can only be realised through informed and purposeful use of it by teachers. Integrating technology in the language classroom requires that teachers not only have knowledge about the Technology but also the subject matter (Content), and how the subject matter needs to be purposefully delivered (Pedagogy). The interplay between these three components of knowledge – Technology, Pedagogy, and Content Knowledge (TPACK) determines the essential qualities of teacher knowledge that are required when teachers integrate technology in their classroom practices. This study is therefore designed to identify the TPACK bases of tertiary level English language teachers, determine their confidence levels in integrating technology, propose teacher professional development programmes that can support English language teachers' integration of technology to enhance student learning, and adapt and validate the TPACK instrument for higher education English language teachers. Data collection for this study involves both quantitative and qualitative approaches. While the quantitative aspect involves the use of a questionnaire, the qualitative aspect consisted of face-to-face interviews with teachers. Data collection is currently on-going. Findings from this study will inform pedagogical practices in the incorporation of technology in English language programmes offered at tertiary levels and enable language teachers to reflect on their classroom based instructional practices to enhance students' language learning and development.

This research was supported by Universiti Malaysia Sarawak through the Scholarship of Teaching and Learning Grant No: C02/SoTL7/1346/2016(7)

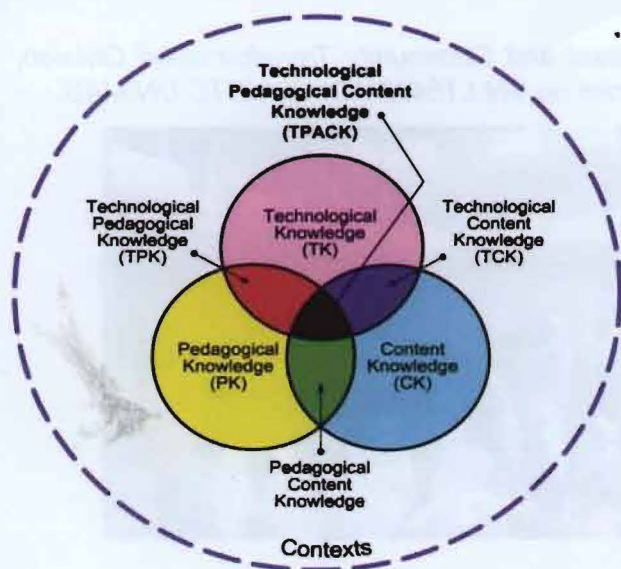


Figure 1: Technological Pedagogical Content Knowledge (Reproduced by permission of the publisher, © 2012 by tpack.org)

THE WHIZKIDS PROJECT: GLOCALISING THE ENGLISH LANGUAGE THROUGH CONTEXTUALISED AND INCLUSIVE LEARNING

Researchers: Humaira binti Raslie, Ahmad Junaidi Ahmad Hadzmy, Rosnah Mustafa and Radina Mohd. Deli

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The globalisation process has placed greater importance of mastering the English language in order to be able to compete at the international level. English which is a lingua franca has been used for global trade, business, and cultural interactions for many centuries. This status has placed English as an influential language against other languages and boosts its global widespread. English's powerful underpinning ensures its presence across all life's spheres-even in menial day-to-day transactions. For Malaysians, their most frequent contact with the language traditionally occurs within the academic setting, specifically in English language classes. Conversely, the current development of the English language necessitates Malaysians to use the language beyond the familiar education purview. Due to this, the struggle expands from acquiring only the fundamental linguistic aspects of the language, to negotiating as well as applying their existing academic-oriented schemata to facilitate social-based interactions. Unlike non-native speakers residing in countries such as the United Kingdom, Malaysians do not have the privilege of experientially learning the language through interaction with the local surroundings. Additionally, in this country, native languages dominate daily interactions in the social domains-whereas English language is not often used. Another constraint currently faced by Malaysians is to find a space to use the English language in the existing locally-constructed social amalgam. The discordance between the globalised nature of the English language with respect to the socio-cultural construct of the Malaysian community was the impetus for carrying out the Whizkids Project. The project's main aim was the 'glocalisation' the English language for primary school pupils. The objectives of the project were to 1) increase the motivation as well as 2) interest, and 3) lower the pupils' anxiety towards learning English. The crux of the Whizkids Model consisted of three core components: inclusive teaching approach, contextualised learning as well as fun and creative activities. The project which was conducted for two hours per week was participated by 80 Year Five-pupils from two semi-urban schools in a densely Malay populated area, and involved four facilitators and 20 volunteers. 12 visits which lasted between 2-3 hours per visit were made within a 6-month period. At the end of the project, the pupils' English language composition test scores showed an encouraging improvement especially in the areas of vocabulary, spelling, and sentence structure variety. The results from this pilot study suggests that English language competency could be improved by bridging the global nature of the language with the local context and content, as well as learner's learning interests and needs.

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PROJECT: GLOBALISING THE E THROUGH CONTEXTUALISED INCLUSIVE LEARNING

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